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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,258	09/23/2006	Guofu Zhou	US040171US2	1878

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EXAMINER

BOYD, JONATHAN A

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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10/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,258	Applicant(s) ZHOU, GUOFU	
	Examiner JONATHAN BOYD	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>23 September 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application number 10/599258 filed September 23rd 2006. Claims 1-20 are currently pending and have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. Acknowledgment is made of Applicant's Information Disclosure Statement (IDS) Form PTO-1449 filed on September 23rd 2006. The IDS has been considered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (WO 03/075086) (herein "Johnson") in view of Zehner et al (WO 03/044765) (herein "Zehner").

In regards to claims 1, 15 and 19, Johnson teaches a system and method of activating a subwindow of an electrophoretic display (*See; Page 4, second and third paragraph*), the method comprising: receiving image information for the subwindow (*See; Page 4, Paragraph 2; Fig. 1, incoming data 2*); determining an image-holding time for the whole display window (*See; Page 7, second paragraph and page 8, second paragraph; where is it inherently disclosed that a controller determines the elapsed time since an image was written to the display*); and addressing the whole display area of the electrophoretic display based on the received image information and the image-holding time (*See; Page 7, second paragraph; where after a predetermined image-holding time has elapsed, each display pixel is substantially addressed again to apply a top-up pulse of a polarity corresponding to the polarity of the last image data applied to the pixel*).

Johnson fails to teach activating a subwindow instead of the whole display area.

However Zehner teaches updating only local portions of the display (*See; Page 57, lines 4-18*). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Johnson with the local portion updating as taught by Zehner to reduce the energy consumption of the display.

In regards to claim 2, Johnson teaches wherein determining the image-holding time includes determining the time interval between updating at least a portion of the electrophoretic display and addressing the subwindow of the electrophoretic display (*See; Page 7, lines 3-9*).

In regards to claim 3, Johnson teaches wherein addressing the subwindow of the electrophoretic display includes writing pixel data onto at least one electrophoretic pixel in the subwindow (*See; Page 7, lines 3-9: where the top-up pulse represents pixel data*).

In regards to claim 4, Zehner inherently teaches wherein the subwindow of the electrophoretic display is addressed to minimize an optical-state mismatch between the addressed subwindow and another portion of the electrophoretic display (*See; Page 57, lines 4-18*).

In regards to claim 5 and 16, Zehner teaches selecting a driving waveform based on the image-holding time for the subwindow; and addressing the subwindow of the electrophoretic display based on the selected driving waveform (*See; Page 7 line 29 – Page 8 line 5, where a proper waveform is needed to preserve image stability*).

In regards to claim 6, Zehner teaches wherein the selected driving waveform

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includes an image-dependent portion having at least one data frame based on the received image information and a current optical state of at least one electrophoretic pixel in the subwindow (*See; Page 7 line 29 – Page 8 line 5, where a proper waveform is needed to preserve image stability and see; Page 57, lines 4-18 where the final and initial images are compared to see which pixels need updated locally*).

In regards to claim 7, Zehner teaches wherein the image-dependent portion of the selected driving waveform includes an image-dependent shaking pulse (*See; Page 41, lines 24- Page 42, line 4 for flashing of the pixels which has successive black and white states switched back and forth*).

In regards to claim 8, Zehner teaches wherein the selected driving waveform includes an image-independent portion including at least one shaking pulse (*See; Page 41, lines 24- Page 42, line 4 for flashing of the pixels which has successive black and white states switched back and forth*).

In regards to claim 9, Zehner teaches wherein the selected driving waveform includes an image-independent portion including a reset pulse (*See; Fig. 8 for reset portion 304 and Page 41, lines 24-25*).

In regards to claim 10, Zehner teaches wherein the driving waveform is selected from a lookup table (*See; Page 15, lines 1-22 and Fig. 3*).

In regards to claims 11 and 17, Zehner teaches adjusting the selected driving waveform based on a scaling factor from a scaling factor table (*See; Page 44, lines 3-18 where the waveform can be compensated by adjusting certain parameters*).

In regards to claims 12, 14 and 18, Zehner teaches adjusting a number of data frames in the selected driving waveform based on the image-holding time; and addressing the subwindow of the electrophoretic display with the adjusted driving waveform to activate the subwindow (*See; Page 44, lines 3-18*).

In regards to claim 13, Zehner teaches adjusting an activation voltage amplitude of the selected driving waveform based on the image- holding time; and addressing the subwindow of the electrophoretic display with the adjusted driving waveform to activate the subwindow (*See; Page 44, lines 3-18*).

In regards to claim 20, Zehner teaches wherein the controller receives image information for the subwindow (*See; Page 57, lines 4-18*).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN BOYD whose telephone number is (571)270-7503. The examiner can normally be reached on Mon - Thur 6:00 - 4:00 est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. B./
Examiner, Art Unit 2629

/Amr Awad/
Supervisory Patent Examiner, Art Unit 2629